

Principal Design

Representing X.500 in a RDBMS

- data extensibility and complexity
- object orientated and hierarchical

emp#	name	age	salary
------	------	-----	--------

↓ Relational

type	syntax	value
------	--------	-------

↓ X.500

PROPERTY

object name	parent name	type	syntax	value
-------------	-------------	------	--------	-------

functional decomposition →

Conceptual Design

Implementing X.500 in a RDBMS

- attributes and values
- hierarchy and names
- aliases
- data tolerance

HIERARCHY

EID	Parent	Alias	Name
-----	--------	-------	------

↓

Parent	Path
--------	------

↓

Alias	A-EID
-------	-------

↓

Name Norm	Name Raw
-----------	----------

OBJECT

EID	AID	VID	Disting	value
-----	-----	-----	---------	-------

↓

Name Norm	Name Raw
-----------	----------

ATTRIBUTE

EID	Type	Syntax	Object ID
-----	------	--------	-----------

service decomposition →

FIG. 1a

Logical Design ↙

Performance Enhancements for RDBMS

- indexing option
- I/O considerations
- management

DIT

EID	PARENT	ALIAS	RDN
-----	--------	-------	-----

TREE

EID	PATH
-----	------

ALIAS

EID	A-EID
-----	-------

NAME

EID	RAW
-----	-----

SEARCH

EID	AID	VID	DISTING	NORM
-----	-----	-----	---------	------

ENTRY

EID	AID	VID	RAW
-----	-----	-----	-----

SUBSEARCH

EID	AID	VID	CID	DISTING	NORM
-----	-----	-----	-----	---------	------

ATTR

EID	SYX	DESC	OBJECTED
-----	-----	------	----------

Physical Design ↙

Realizing X.500 in a RDBMS

- efficiency
- portability
- functional extensibility

DIT

EID	PARENT	RDNKEY	RDN	FLAGS
-----	--------	--------	-----	-------

TREE

EID	LEV1	LEV2	LEV3	LEV4	PATH	FLAGS
-----	------	------	------	------	------	-------

ALIAS

EID	A_EID	FLAGS
-----	-------	-------

NAME

EID	RAW	FLAGS
-----	-----	-------

INFO

MAXIED	FLAGS
--------	-------

SEARCH

EID	AID	VID	NORM KEY	NORM	FLAGS
-----	-----	-----	----------	------	-------

SUBSEARCH

EID	AID	VID	CID	CVID	NORM KEY	NORM	FLAGS
-----	-----	-----	-----	------	----------	------	-------

ENTRY

EID	AID	VID	RAW	FLAGS
-----	-----	-----	-----	-------

SENTRY

EID	AID	VID	VALUE	FLAGS
-----	-----	-----	-------	-------

BLOB

EID	AID	VID	VFRAG	RAW	FLAGS
-----	-----	-----	-------	-----	-------

ATTR

AID	SYX	DESC	OBJECT ID	FLAGS
-----	-----	------	-----------	-------

SUBATTR

CID	SYX	DESC	OBJECT ID	FLAGS
-----	-----	------	-----------	-------

OCLASS

OCID	DESC	OBJE CTID	MUST LIST	MAY LIST	SUPER LIST	FLAGS
------	------	-----------	-----------	----------	------------	-------

physical decomposition →

FIG. 1b

BASE OBJECT
WHOLE TREE 11

ONE LEVEL 12

SUB TREE 13

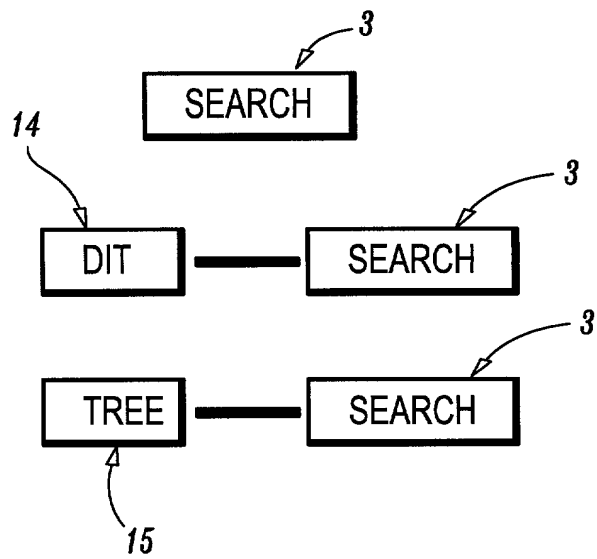


FIG. 2

BASE OBJECT
WHOLE TREE 11

ONE LEVEL 12

SUB TREE 13

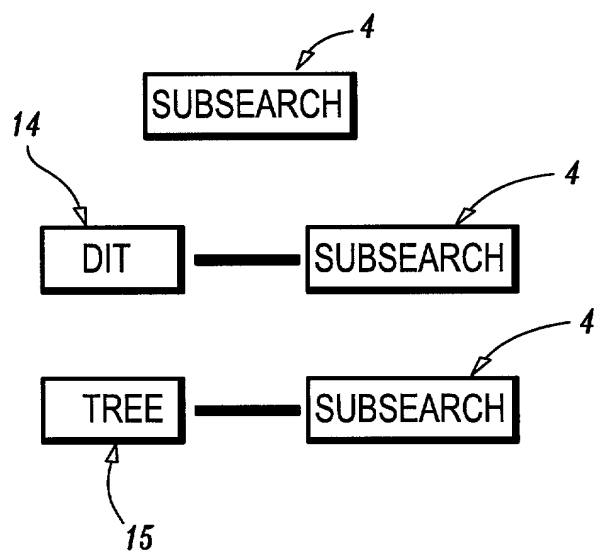


FIG. 3

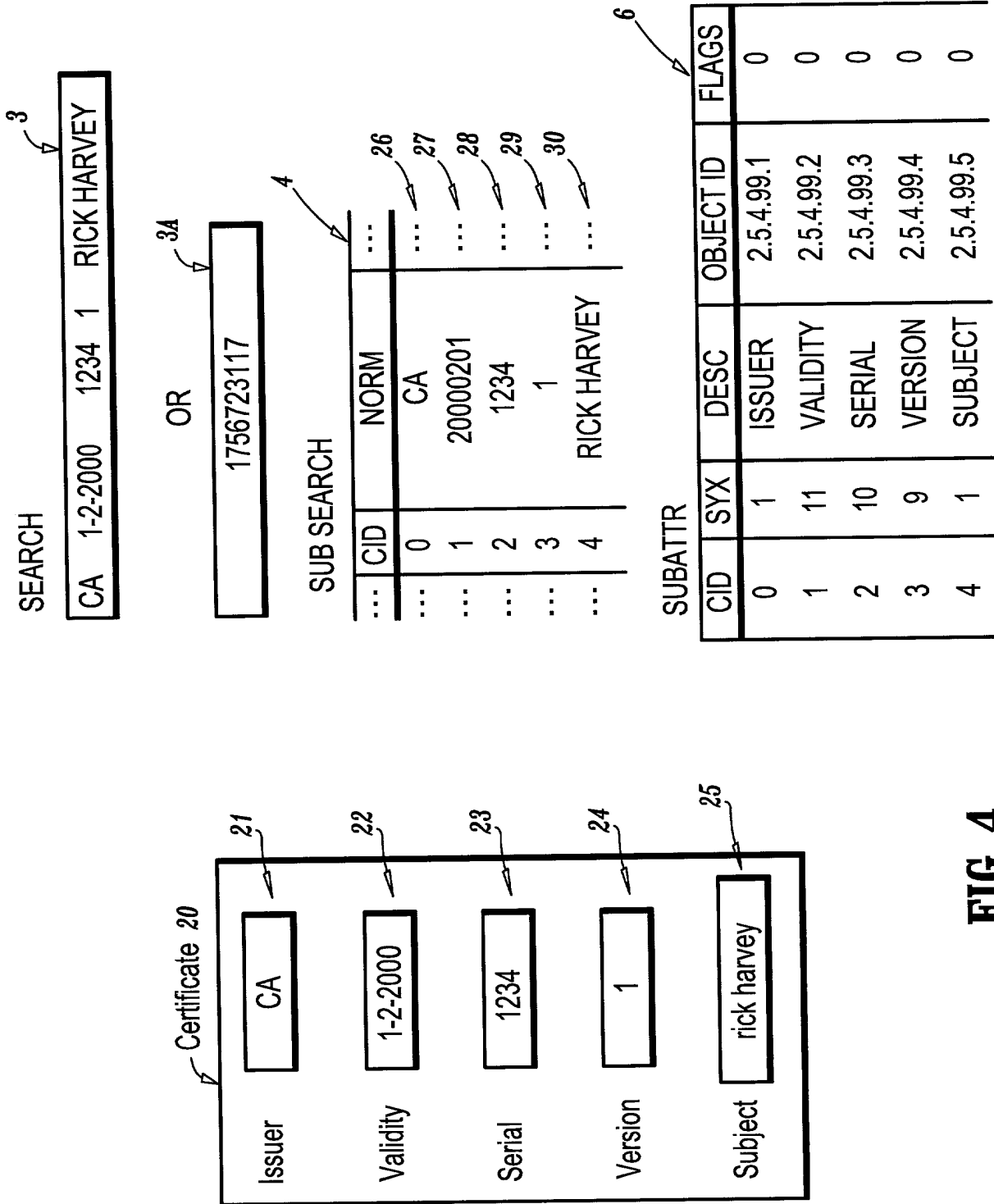


FIG. 4

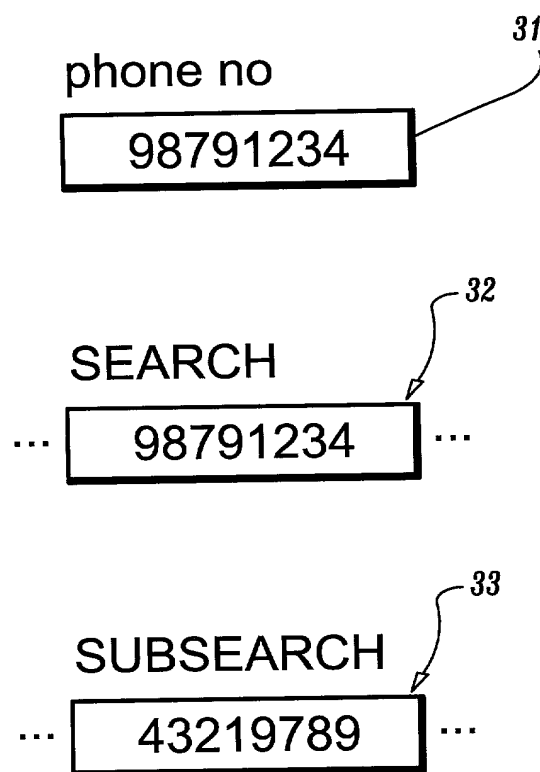


FIG. 5